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An Essay

On diarrhoea

by

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When we consider the complex sympathies and numerous relations which the alimentary canal bears to the different organs of the human body, we can form some idea of the part it plays in the diseases to which it is subject. One of the many of these is that now under consideration viz diarrhœa.

Definition

Every subject on which we treat is soon lost sight of for want of being well defined. This always has and will constitute, a difficulty, either on account of the vagueness of the idea which the definition proposes to convey, or, from the circumstance of not being well sufficiently comprehensive. Thus, if we would receive the idea literally conveyed by the derivation of the word diarrhœa, it would embrace almost all of the diseases of the digestive canal. To arrive at as much precision as lies in our power, we will adopt the

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definition of a celebrated author, with a little modification. That diarrhoea is too great a looseness and frequency of the alvine evacuations, accompanied with little or no griping and tenesmus.

History.

This is the effect of diseased intestinal action, and gives us no information of the cause or nature of the malady, and hence the necessity of an inquiry into its pathology. But to do this, before we inquire into the physiology of the parts concerned in the disease, of which we are about to speak, would be rushing in medias res. As every physician, who would practice with any regard to the safety of his patients, must know the healthy functions of every part in which the disease may be located, so we must know the healthy functions of the digestive apparatus or that process

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which our food must undergo in the alimentary canal in a state of health, we thereby get a standard, by which we are enabled to pronounce every deviation therefrom the effect of disease. After the food has been duly masticated and insalivated it passes by the act of deglutition into the stomach when it is converted into a pulpy like substance called chyme. By what means this is performed we would not pretend to say, a great many ~~unsatisfactory~~ theories have been ably suggested, but have left the subject nearly as they took it up. The aliment having been sufficiently digested in the stomach, passes through the pylorus into the duodenum, or second stomach, as it has been called. After remaining there a short time, being acted upon by the bile, and pancreatic juice, it is separated into chylous and

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excrementitious matter. The former is
taken up by the lacteals, and carried
into the thoracic duct, which empties
itself into the left subclavian vein,
where it becomes mixed with the
blood; the latter passes into the small
intestines which, alone, occupy so great
a portion of the digestive canal.
The progress of the food along them
is very slow, being retarded by their
numerous curvatures, which favour
the long continued presence
of the food within their cavity,
so that the chyle separated from
the excrementitious part, may
present itself to the mouths of the
absorbents, which, as is well known
diminish greatly as the distance
increases from the stomach. After
it reaches the large intestines, the

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food undergoes very little change; having become, in a great measure, foreign matter, from whence it is discharged. If these changes are not complete; for instance, if the food is not duly masticated, the gastric juice will not penetrate it with facility and it passes out of the stomach into the duodenum before it is converted into chyme. The small intestines in such a case, will be irritated, as by a foreign body, and hence an increased quantity of mucus will be secreted, and frequent discharges constituting one variety of diarrhoea.

Though the change be complete in the stomach, yet, if the small intestines when they receive the chyme pass it on in too hurried a manner, or that the ileocolic valve is diseased, so as to allow its too

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ready a passage into the large intestines, these latter will be irritated, and we shall have another variety of diarrhoea. The mechanism of the digestive canal next claims our attention. It is composed of four coats; the serous, muscular, cellular, and mucous, the serous is a common coat and does not require special notice on this occasion; the cellular also does not play any important part, to the inner villous or mucous and muscular coats our attention is to be mainly directed. The peristaltic motion is accomplished by means of the action of the muscular coat, this is the motive power; but, as substances in the alimentary canal are not directly applied to it, we must presume its motion to be secondary to impressions on the mucous coat. It may, then, be asked is the contraction of the muscular coat - whether natural or diseased, in healthy digestion

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or in diarrhoea, dependent on the stimulation of the mucous coat? This may be illustrated by the operation of our common emetic and purgative medicines. When introduced into the stomach they irritate the mucous surface, which calls the muscular coat into irregular and spasmodic action. In fact, every unnatural stimulus to the mucous membrane, causes it to pour out an increased quantity of mucus, attended by a contraction of the muscular coat. So also in the evacuation of the feces; when they arrive in the rectum, as they contain no longer any nutritious matter, they act as a foreign body, irritate the mucous coat, which, irritation being conveyed to the muscular coat, stimulates it to contraction: by which, together with the aid of other muscles, the feces are expelled. The different ways by which the

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mucous coat may be irritated, are either, local or sympathetic. Aliments may serve as causes of irritation, when not sufficiently prepared in the mouth, or on account of their being indigestible, and not suited to the weak state of our stomach; either on account of their quantity or quality. Unripe fruits, crude vegetables will come under this head: all our medicinal and corrosive substances, when introduced into the alimentary canal, irritate its internal surface, cause it to take on an increased secretory action, whereby it pours out its fluids, calls the muscular coat into frequent and spasmodic action. Worms on the same principle, have been found to be a cause of this complaint.

The sympathetic are an excess of cold or heat, applied to the skin,

the mucous coat, on account of the strict relation between it and the surface, takes on an irritated action, diseases, situated in different parts of the system are causes of this disease, of which pulmonary consumption holds no inferior rank. The passions of the mind have their influence, such as fear and anger which are occasionally known to produce the disease under consideration. Dentition, as is well known, makes children liable to the disease. Physicians have taken advantage of the way in which nature cures gout by inducing a diarrhoea. All the above agents, by irritating the internal intestinal surface, will cause it to pour out its fluids, and call the muscular coat into frequent and unnatural action, constituting

the museum had an account of the
most celebrated authors of the
classical age. These are the
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diarrhaea. So long as the leading phenomena of the disease continue, we may naturally suspect an irritation of the mucous coat to be present. There are two kinds of irritation, 1st where the intestinal surface is healthy, but irritated by medicinal or indigestible substances. 2^d where none of these are actually present, but, where the inner surface, by their continued application, has become altered, inflamed or ulcerated, then, the common, and otherwise bland, aliment, will prove a source of irritation, and keep up a disease similar to that produced in a healthy state of the surface, by acid and corroding articles. This may be proved by the state of the conjunctiva when inflamed; its natural stimulus light can no longer be borne.

This state of the diseased intestines

(especially of the duodenum and jejunum),
 will, by continuous sympathy, along
 the ducts hepatic and pancreatic,
 cause their respective glands to pour
 out their fluids in an increased
 quantity, so as to constitute ^{diarrhoea} bilious,
 and still further irritate the diseased
 intestine. It is at present established
 by Broussais and others, as a general
 law, that each gland is subservient
 to its mucous surface; as in the
 salivary glands, which pour out their
 fluids in consequence of the irritation
 or stimulation of their mouths,
 opening upon a mucous surface, with
 which they are in connexion. The
 lachrymal gland, secretes more
 copiously, when the conjunctiva
 is inflamed. Post mortem examinations
 will bear us out in this our pathology

of the disease. In every fatal complaint of this nature, we find more or less of the ravages of inflammation, the lining membrane of the digestive tube highly inflamed, and sometimes and sometimes even ulcerated.

Diagnosis

According to Cullen, diarrhoea is to be distinguished from dysentery, (a disease which it most resembles) by not being contagious, its existing without fever, the evacuations not being mucous and bloody, and the tormina and tenesmus not being so violent, but, after all, they are so much blended with each other, that it is difficult to draw a line between a mild case of the latter, and an aggravated case of

the disease in every case is
 the same, we may say of the
 disease in general, that it is
 a highly infectious disease,
 and is often fatal when the

Diagnosis
 According to the above description is
 to be distinguished from other
 diseases which it may resemble
 by its being contagious, its
 being without any other
 symptoms, and its being
 the primary and essential
 cause of the disease, and not
 a secondary one, as is the case
 with the disease which it
 resembles, and which is often
 a mere complication of the
 latter, and is associated with

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the former. To draw a distinction between diarrhoea and other diseases will be unnecessary, its diagnostic signs are sufficiently numerous.

Prognosis

In forming our prognosis in this disease, we are to be determined by the particular cause from which it arises; whether symptomatic of another disorder, and whether of a critical nature; as likewise by the degree of debility present in the system, and the obstinacy with which it resists our remedies.

Treatment

In the treatment of this disease, we may divide it into idiopathic and symptomatic. the indications in the cure of diarrhoea, are 1st to remove

the causes of the disease. 2^d to allay irritation, which from our pathology is rather simple. If the patient be feverish, and the disease and the disease be attended with local pain and much uneasiness, it will be necessary to abstract blood: if no striking effects result from the first bleeding, it should be repeated, every two or three days, as long as the state of the pulse, and the general strength of the patient will warrant. It is most prudent to take little blood at a time, and repeat it often; emetics and purgatives ought in a great measure to be excluded from the treatment of this disease: if any, the mildest kind of purgatives ought to be given, such as castor oil, magnesia, sulphur, &c. Cullen, taking a more correct view of the nature of this complaint, was among the first to condemn the purgative

The first of these is the fact that the
 human mind is not a blank slate at birth
 but is filled with a vast amount of
 information which is acquired from the
 environment. This information is stored
 in the memory and is available for use
 at any time. The second fact is that the
 human mind is not a passive receiver of
 information but is an active participant
 in the process of learning. The third
 fact is that the human mind is not a
 single entity but is composed of many
 different parts which work together to
 form a complex whole. The fourth fact
 is that the human mind is not a static
 entity but is constantly changing and
 growing. The fifth fact is that the
 human mind is not a purely rational
 entity but is also influenced by emotions
 and feelings. The sixth fact is that the
 human mind is not a purely individual
 entity but is also influenced by the
 social environment. The seventh fact
 is that the human mind is not a purely
 physical entity but is also influenced by
 spiritual and religious beliefs. The
 eighth fact is that the human mind is
 not a purely mortal entity but is also
 influenced by the possibility of an after-
 life. The ninth fact is that the human
 mind is not a purely material entity but
 is also influenced by the possibility of
 immortality. The tenth fact is that the
 human mind is not a purely finite entity
 but is also influenced by the possibility
 of infinity.

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plan in this disease. No person in his senses would give an emetic in a phlogosed stomach and why should we resort to purging, when the intestines are inflamed. The impropriety of the practice, in the latter, is as glaring as in the former. The practice of active purging, arose among the founders and advocates of the humoral pathology, to evacuate the concocted matter, which the vessels had deposited in the intestines. The warm bath may be used in this disease, with considerable efficacy, particularly as a revulsive agent, by determining to the surface. Cupping or leeching over the abdomen, will be found one of the most efficient remedies, to which we can have recourse in this disease, especially when general bleeding is forbidden, and the local

and in the same manner the
 right hand side of the
 triangle is divided into three
 equal parts, and the middle
 part is the distance of the
 center of gravity from the
 base. It is also shown that
 the distance of the center of
 gravity from the base is equal
 to the distance of the center
 of gravity from the vertex.
 This is a very important
 property of the triangle, and
 is used in many cases.
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uneasiness and distress persist. Blisters,
 applied to the extremities principally to
 the wrists and ankles, are recommended by
 some practitioners, which we doubt by
 the revulsion they occasion, are very
 beneficial. Diaphoretics are very serviceable,
 particularly if the disease is occasioned
 by cold, suppressing the perspiration;
 the acetate of ammonia, at this form
 of the disease may be used with
 decided advantage, in fact any
 diaphoretic preparation, which has
 opium for its base, such as Favers
 powder, &c. On which account, we
 direct the patient to wear flannel
 and be warmly clothed. The flannel
 roller, as introduced by a distinguished
 professor of this University, and
 particularly enforced, is certainly of
 great service: it acts by keeping up

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an equal perspiration on the surface,
 and giving support to the bowels, .
 If the disease proceeds from unwholesome
 food, it ought to be discontinued; if
 in children, dentition be the cause,
 the gums should be scarified, to relieve
 irritation; if from worms, they ought
 to be dislodged, for as long as the
 cause remains, of course the disease will
 remain which is the effect. Particular
 attention ought to be paid to the patients
 clothing, and an avoidance of all the exciting
 causes. These sometimes fail while a parent
 to some distant part, will do what the
 whole catalogue of medicines will not
 be able to effect; the strong sympathy
 which exists between the brain and the
 alimentary canal, is known to almost
 every tyro in medicine. By coming in
 contact with new faces and new scenes

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it rouses the mind from its depressed state, which causes a healthy reaction on the system. The celebrated Lacke was well aware of this sympathetic connexion, when he remarked, a man having loose bowels never thought nor acted energetically. And the witty Voltaire, somewhere remarks, that there was many a war, because the minister could not get a discharge.

Symptomatic diarrhoea can not of course be cured, as long as the original complaint lasts, but merely be palliated. We should be careful, not to arrest it, for it is frequently critical in some diseases, as gout, rheumatism. In chronic diarrhoea, very little can be done, except alleviating the symptoms, by keeping the patient on loose diet, and applying liniments, administering opium, camphor. After all that is said, in the treatment of this complaint, whatever

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may be its cause or character, an attention to diet is of the utmost moment, nothing as an article of food is admissible, unless it be light, bland, and easily digested, such as rice, tapioca, sage, gum water, barley water. All malt and liquors having alcohol in them, should be proscribed, as they have a tendency to increase the irritation. This part of the treatment can not be too much insisted upon, the good results arising from this practice in diseases, by one of our most eminent practitioners, are too glaring not to have directed the attention of physicians to this department of medicine.

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